XXII Congresso dell'Associazione Italiana di Oceanologia e Limnologia

Verbania, 28 Settembre – 1 Ottobre 2015

Centro Congressi dell'Hotel Majestic, Verbania Pallanza

Le alterazioni del ciclo dell'acqua

Interazioni tra acque continentali e oceani in un pianeta in rapido cambiamento

VOLUME DEI RIASSUNTI

Book of Abstracts

Città di Verbania

TERME di BOGNANCO

Novacoop

WALZ
High Quality Instrumentation for Plant Sciences

Distribution patterns and toxic potential of *Dolichospermum lemmermannii* (Cyanobacteria) in European water bodies

Camilla Capelli[1,2], Andreas Ballot[3], Leonardo Cerasino[1], Nico Salmaso [1]

[1] IASMA Research and Innovation Centre, Istituto Agrario di S. Michele all'Adige - Fondazione E. Mach, S. Michele all'Adige, Trento, Italy

[2] Department of Biology, University of Florence, Florence, Italy

[3] Norwegian Institute for Water Research (NIVA), Oslo, Norway

The presence of *Dolichospermum lemmermannii* (Nostocales) in Central and Northern Europe is well documented. Albeit this species is typical of cold environments, it is characterised by high variability to temperature adaptation as well. Some populations of *D. lemmermannii* show high temperature optima (i.e. between 19°C and 26°C) and have the capability to form huge water blooms in summer stratified conditions and during calm weather. In Southern Europe, a case of recent colonisation is represented by the spread of this species to the large and deep lakes south of the Alps (namely, lakes Garda, Iseo, Como and Maggiore). *Dolichospermum* appeared for the first time in Lake Garda at the beginning of the 1990s with extended blooms between July and September. Afterwards it appeared in lakes Iseo (second half of the 1990s), Maggiore (2005), and Como (2006). The spread highlighted the ecological heterogeneity of *D. lemmermannii*, possibly suggesting the existence of different ecotypes adapted to different European climatic regions. In this work, we report the preliminary results of a wide research carried out on populations isolated from different European waterbodies. The analyses are based on taxonomical, genetic and metabolomic determinations carried out on isolated strain cultures. A phylogenetic study on the 16S rRNA and housekeeping genes (e.g. *rpoB*,) was integrated by the assessment of the toxic potential, evaluating the presence of cyanotoxins (*i.e.* microcystins, nodularins, anatoxins, cylindrospermopsins) and cyanotoxins encoding genes. Further studies will allow gaining insight about the phylogeography of this fast spreading species at a continental level, along climatic and trophic gradients.

Partecipa al concorso per la miglior presentazione orale/miglior poster